

Amendment 1.2. Only "DELETION" NO SUBSTITUTION

MULTI KNIFE CUTTING DEVICE- INCLINED CUTTING ACTION- Heavy-duty model.

Described below is an embodiment which uses knives of a bigger cross section, resulting in better performance. Fig 15 to 18 show the details of this model. Following are the differences from the standard model.

- Knife size is 25x1mm as compared to 16x0.6mm.
- Part 8 and 15 of fig 8 become redundant, as the knife assembly is strong by itself.
- Part 7 of fig 8 is also not required as the knives do not bend in normal operation.

This makes the cutting operation simpler and faster than the standard model.

CONSTRUCTION DETAILS

Part	Item	Material	Dimension,mm
1,2	Knife supports	Wood/plastic	25x70x76, 25x70x 210
3	Knife, 7nos	St.Steel gr.420	1x25x160
4	4mm bolts,knife assembly	Standard	4x80
5	6mm bolt,	Standard	6x90
6	Platform	Wood/Plastic	50x90x100
7	Hinge support	S.S. angle	20x20x3
8	Base board	Wood/Plastic	20x100x220
9	Knife rest	Plastic	20x45x100
10	Lever	St.Steel flat	3x25

Platform 6 is pressed onto baseboard 10 by 2 nos 8mm locating pins as shown in fig 15

location B. Seven knives are assembled in knife supports part 1,2 at a center to center distance of 9mm. The knife assembly is fixed to vertical supports 7 by means of bolt 5, which acts as a hinge mechanism. The vertical supports are made of stainless steel angles and are screwed to the board. The horizontal distance between the angles is the same as the width of part 2 so that there is no play when the knife assembly is moved up and down. The web of the angles parallel to the 100mm edge of the board is cut flush with the board top (fig 17) so that the knife frame part 2 does not foul with the board ,when the knife frame is lifted for the cutting operation.

The 4mm wide slots in the platform 6 (fig 15}match with the corresponding knife positions in the knife assembly. The use of 25x1mm knives which have a moment of inertia seven times that of 16x0.6mm makes the device sturdy. This also makes the U frame and cross member of the standard model, Fig 8, superfluous.

PTO

FUNCTIONAL DESCRIPTION.

The knife assembly is lifted up by one hand using lever 10 and moving anti clockwise. The movement should be sufficient to place vegetables on the platform Using the second hand the vegetables are spread on the 90mm wide platform in a single layer with their length across the knives. Applying hand force at the end of the lever 10, the knife assembly is brought down on the vegetables till it comes to a rest on part 9. With this one operation all the vegetables on the platform are cut into 8mm pieces.. The cut pieces can be emptied into a tray kept beside the device by tilting the device or by pushing with a spatula. Now the device is ready for the next cut. In case of hard vegetables additional force can be applied by lifting up part 2 at the left end in addition to the downward force on lever 10 using both the hands. Force on part 2 acts as a class 1 lever. The device should be kept at the edge of a table so that part 2 of the knife assembly can move below the board level when the assembly is lifted up for placing the vegetables.

The device is seven times faster and also safe as the hands are away from the knives and also the vegetables during cutting. The approach to the vegetables is also better than other models.

VARIATION OF HEAVY DUTY MODEL. DEVICE B.

Fig. 19 shows the elevation of a second Device B model, where the position of the device for cutting is made upside down as compared to fig.16, which means the knife assembly is at the bottom and the base with platform is on top. The details are given below.

The construction of the device is same as Heavy-duty model shown in fig.16 except for lever part 10. The extended base part 8 acts as the lever, as the base is now on top. The knife assembly is without the lever as shown in fig.19 and is at the bottom. Part numbers are same as in fig.16 except for part 11 which are wooden blocks to support the device. The dotted lines in the fig.19 show the base and platform assembly in partly lifted position, with part 5 acting as the hinge.

FUNCTIONAL DESCRIPTION.

The device is placed with the knife assembly (part 1,2, and 3) resting on two wooden blocks, part 11 on any plain surface as shown in fig.19. This creates space for the vegetables to fall down by gravity at the end of cutting stroke. The base with platform ,part 6 and 8, is lifted up to make it vertical. The vegetables are spread on the knife assembly on the portion where the knives part 3 are located. The base is brought down on to the vegetables, using hand force with the lever advantage. The platform ribs enter the slots between the knives after cutting the vegetables. The cut pieces fall on to the surface where the device is supported. This is an improvement over the previous mode of operation where the base part 8 is at the bottom, as the cut pieces fall down on their own, saving time and making the operation simple.